Special Issue

Sustainable Development of Concrete and Composite Structures

Message from the Guest Editors

Concrete, steel reinforcement, and structural steel are the most widely used materials in building and infrastructure construction. The production and usage of these materials in the construction of structures significantly contribute to global greenhouse gas emissions. It is therefore extremely important to account for sustainability in the production of materials and in the design, construction, and maintenance of buildings and infrastructure to achieve a net-zero emissions scenario. This Special Issue focuses on the sustainable development of concrete structures and steel–concrete composite structures. It covers (but is not limited to) the following: experimental and numerical studies on the behaviour of sustainable concrete, recycled materials, structural members, and structures; advanced simulation technologies; new design methods; structural optimization; artificial intelligence; sustainable construction; and life cycle assessments for sustainable concrete and composite structures. For further reading, please follow the link to the Special Issue Website at: https://www.mdpi.com/journal/buildings/special_issues/W2S93IHT0H

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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